NOTES ON SOME ASIATIC STURNIDÆ (BIRDS)[1]

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(*With a text map*)

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INTRODUCTION

Indian starlings include the genera *Saroglossa* (1 species), *Sturnus* (10 species), and *Gracula* (2 species). Except for *Saroglossa*, of Madagascan affinity, and the specialized *Gracula*, these are the more 'typical' members of the family in the sense of being the ones most familiar in other countries where they have been introduced.

The status of the genera has already been reviewed by Amadon (1943 b); in this paper it has been possible to reassess the status of some of the lesser taxonomic groups of the Indian sub-region. Some suggestions are made for further investigation in the field, two forms recognized in the New Fauna are found not to be valid, a recently described race confirmed, and a hitherto unnoticed plumage in *Saroglossa spiloptera* studied.

Dr. Walter Koelz's industrious collecting in India, Persia, and Afghanistan has supplied workers at the American Museum of Natural History in New York with an unparalleled opportunity for a systematic study of the Indian fauna and this review is chiefly based on his specimens. His superb material, in most cases with all plumages adequately represented, gives us a more up-to-date and accurate picture of the avifauna, and concomitantly new biological and distributional problems suggest themselves.

The systematic arrangement follows that of Amadon (1943 b) in his review of the genera of starlings. I am in agreement with his decision to unite *Pastor*, *Sturnia*, *Sturnornis*, *Sturnopastor*, and *Temenuchus* with *Sturnus*. His suggestion that *Acridotheres* will be considered by some authorities as not deserving generic distinction is justified. The one constant character by which *Acridotheres* differs from *Sturnus*, a tendency for the possession of a frontal crest, is too trivial in comparison with the many features which they share to warrant excluding *Acridotheres* from the enlarged genus *Sturnus*.

Measurements: All measurements are given in millimeters and are of adult birds in the Koelz collection. Wing length was measured with the wing pressed flat against the rule. The bill was measured from the anterior edge of the nostril.

Localities: The localities of the specimens in the Koelz collection are given with the expectation that they will prove useful in extending the knowledge of the distributions of Indian birds.

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[1] Notes from the Walter Koelz Collections, Number 9.

Saroglossa spiloptera (Vigors)

Synonym: *Saroglossa spiloptera assamensis* Baker (Type locality: Khasia Hills).

Uttar Pradesh (United Provinces): Kathgodam, April 6–10, 1948, 4 ad. ♂, 3 ad. ♀. Kumaon: Bageswar, June 2, 1 ad. ♂. 3 ad. ♀. Nepal: Amlekhganj, March 8-9, 1947, 3 ad. ♂, 2 ? imm. ♂, 2 ad. ♀; Hitaura, June 12, 17, 21, 2 ad. ♂, 1 ad. ♀, July 19, 1 imm. ♂.

Stuart Baker (1924) proposed the name *assamensis* for an eastern race of this species which he characterized as ' deeper and more richly colored above and below in both sexes. In the male the grey centres to the feathers of the back are bolder and the margins less brown.' Ticehurst (Stanford and Ticehurst 1935) was correct in not recognizing this race; he noted that the male plumage is variable and that western Himalayan birds are similar to those from Assam.

Also, without apparent foundation, Baker (1926, 1933) extends the eastern border of the species's range to include Burma, Shan States, Yunnan, Annam, Cochin China and southwestern China. This is decidedly incorrect. In Burma it is only a winter visitant (Stanford and Ticehurst, 1938) as it must also be in Siam. Rothschild (1926) in his complete survey of the Yunnan avifauna does not even mention this species; still later Stanford and Ticehurst (1938) could say it "has not been recorded from Yunnan." Mr. Jean Delacour tells me that it has never been found in Indo-China, nor am I able to trace any record of its occurrence there.

It must be considered as breeding in the Himalayas from eastern Assam (and possibly adjacent areas in northwest Burma) westward at least to the Kangra Valley in Punjab.

Although I have seen no molting specimens, it is probable that there is a single, post-nuptial molt which occurs between July and November; freshly molted birds are to be found in November while the specimens collected between February and June are worn.

Many females have a few chestnut feathers dispersed among the brown throat plumage, a condition I have not seen previously described.

In this species there appear to exist two types of first year male plumage. It has previously been assumed that the young resemble the female, but that the markings of the juvenal are more streaked. Among the examples of this starling collected by Koelz are three specimens which strongly suggest that the plumages of this species are not as simple as commonly believed.

One type of first year male plumage is exhibited by a fledgling male, with gape still fleshy, collected at Hitaura, Nepal, July 19, 1947. The plumage of this individual approaches that of the adult male in several respects and so definitely differs from what has been regarded as the normal immature plumage that it deserves a detailed description.

Breast, abdomen, flanks, and under tail coverts pale rufous, except for dull white area in center of abdomen; feathers of the throat dull white, but the shafts, and edges brown, imparting a streaked appearance; primaries dull black, glossed with green; secondaries browner, and the outer vanes already elongate, producing the characteristic grey patch; upperparts brown, becoming rufous on the scapulars tertials, rump, and upper tail coverts; the entire back has a more rufous aspect than that of the female; tail dusky brown above, below, the rectrices are grey-brown on the outer vanes and pale rufous on the inner vanes; axillaries pale

rufous; under wing coverts at bend of wing brown, barred with rufous; thigh rufous; feet black although the colors of the soft parts were not recorded on the label.

It will be seen at once that it resembles the adult male in the rufous and unstreaked underparts and the glossy black wings, characters never present in the female.

The second type of plumage is undoubtedly the one Baker (1926) and others considered as that of the immature male. At Amlekhganj, Nepal, March 8–9, 1947, Koelz collected two males (although one was doubtfully sexed as such) displaying that plumage. Measurements[1] indicate they are males. Both birds are virtually identical with all the females I have examined but are larger and with a slightly more extensive white area on the abdomen. One would expect, however, that a male taken in the spring would possess the fully adult male plumage. The nesting season, as given by Baker (1933), is from April to June. It is therefore probable that these birds have passed the winter in this female-like plumage.

Similar cases of a divergence of plumages in the same sex have been discussed by Mayr (1933), particularly in *Neolalage banksiana*, and by Amadon (1943a) in *Gallicolumba stairi* and some races of *G. beccarii*. In *G. stairi* it was found that females possessed, besides the feminine type adult plumage, a male type adult plumage almost identical with that of the male. Amadon regarded the male type plumage as advanced ("progressive") and the female type as retarded; the normal juvenal plumage in that species resembles the female plumage.

In *Neolalage banksiana*, Mayr found two immature plumages, one which was described as normal and the other as "progressive" which approaches in coloration the adult plumage. Birds possessing either plumage eventually molt into the adult dress.

Both cases are somewhat analogous to the condition in *S. spiloptera* but it is not yet possible to say which case more nearly resembles that of the starling. It is not clear from the material so far available whether the feminine type male plumage persists in the adult male, or whether after the next molt the fully adult male dress is acquired by those males with a feminine type plumage.

It is not known, of course, if earlier collectors, upon taking a male in the feminine type plumage automatically labelled them immatures because of the condition of the plumage. New specimens of this bird should be carefully sexed and the breeding condition ascertained so that it may be possible to decide if the males in female plumage are first year birds in progressive plumage or adult birds in retarded plumage.

MEASUREMENTS: Wing: ♂♂, 110, 110, 110, 110, 111, 111, 111, 115; ♀♀, 105, 105.5, 106, 106; Tail: ♂♂, 56, 57, 57.5, 57.5, 58.5, 59, 60.5, 61, ♀♀, 54, 55, 56, 56, 57.5. Bill: ♂♂, 13.5, 13.5, 13.5, 14, 14, 14.5, 14.5, 15, 15, 15; ♀♀, 13, 13, 13.5, 14, 14, 14, 14, 14, 14.

Superspecies **Sturnus malabaricus**

As currently treated, there are six named races of the Grey-headed Myna: of these, three races are endemic on islands in the Bay of Bengal and three races occur on the mainland of southeastern Asia from

[1] (in mm.) Wing: 109, 111; tail. : 59, 60; bill : 13.5, 15.5.

southern India to Indo-China. Ticehurst (1940) has suggested the possible inclusion of *Sturnus senex* of Ceylon as a subspecies of *S. malabaricus*, but all authors, although cognizant of the relationship of the two forms, have retained *senex* as a full species.

Ripley (1949) characterizes *S. senex* and *S. malabaricus* as members of a superspecies. The distribution of *senex* and the continental races of *malabaricus* suggests to him that the latter may have invaded peninsular India during periods of low temperature and high humidity; the route postulated is across the main watershed of India: the Khasia Hills-Kaimur Ridge-Vindhya Hills mountain chain from Malaysia. The populations on Ceylon and along the Malabar Coast became isolated during succeeding periods of high temperature and decreased humidity and evolved during these periods of isolation into the subspecies *blythii* and the strikingly different *senex*.

This does not seem completely convincing. *S. senex* appears to be a more primitive species; it is crestless, the underparts are streaked like the juvenals of some species of *Sturnus*, and the crown, back and rump are dull colored, not glossy. It is so different from *malabaricus* that it becomes difficult to conceive of *blythii* and *senex* being evolved from the same immediate ancestral stock. Ceylonese forms are rarely so different from their mainland congeners. It appears more likely that *senex* is a relict of species which was once more widespread in India, having become extirpated over most of its range but managing to survive on Ceylon.

There are two morphologically distinct groups within *malabaricus*. As a unit the three island races are as different from the mainland races as the Ceylonese species is from either group; at the same time the races of each group have such an extremely similar color pattern as to emphasize the dichotomy. It seems necessary to raise each group to species rank and to exclude the primitive *senex* as a member of the superspecies. The superspecies *S. malabaricus* would then include the two polytypic species *S. malabaricus* and *S. erythropygia*, each with three subspecies.

Because of their similar appearance and local migrations some confusion has been evident in previous statements of the breeding ranges of the races of *malabaricus*. I have attempted below to give the probable distributions.

S. m. malabaricus and *S. m. blythii*. Compared with the ranges of the two other races of *malabaricus* the range of the southern Indian race, *blythii*, is a rather limited one. Reliable breeding records for this subspecies have been established for northern Kanara, Coorg, and 'the parts of Mysore bordering on the Wynaad.' (Whistler and Kinnear, 1933). Sálim Ali and Whistler (1936) state that *blythii* is the breeding form of Travancore, the nominate race appears in that locality only as a winter visitant. Sálim Ali (1943) says that *blythii* is resident in Mysore, but his are all winter specimens and he gives no breeding data. Whistler and Kinnear (1933) are emphatic in denying that either race breeds in Belgaum. Koelz's series, from just south of Belgaum, offers no breeding records but shows that both subspecies may occur together there in winter.

Before proceeding further it will be useful to summarize what has so far been established. The race *blythii*, then, is restricted as

a breeding bird to the southern Indian hills from Travancore to north Kanara and eastward in the hills of Mysore. It appears to be separated by a considerable gap from nominate *malabaricus*; the latter is known to breed from Mewar and Madhya Pradesh (Central Provinces) eastward to Assam and Bengal and north in the Himalayan foothills from Dehra Dun to Mishmi Hills.

The wintering records of *blythii* are unusually interesting, for on the basis of the known range they give evidence of a northward migration after breeding, an otherwise unprecedented movement among Indian starlings. Specifically, *blythii* has been found in winter, together with *malabaricus*, in Travancore and Mysore, just south of Belgaum, and as far north as Bombay City (Sálim Ali and Abdulali 1937)[1]. There are two possible interpretations: the first that *blythii* wanders north after nesting and the second that the movement is only an apparent one, the visitants coming from unkown breeding areas further east and not from the south.

Additional light is shed upon this question by some of the Koelz specimens. Of fourteen specimens from Londa and Jagalbed, seven are *blythii*, five are nominate *malabaricus*, and three appear intermediate. These three birds have the crown and nape white, like *blythii*, but the white of the throat does not extend onto the breast. (The extension caudad of the white of the throat, in some cases reaching the abdomen, will always separate typical *blythii* of both sexes from *malabaricus*). It is evident that the two races are interbreeding in an as yet undetermined area.

It is therefore possible that the ranges of *blythii* and the nominate race are more extensive than previously believed. The evidence points to a more northerly and easterly distribution for *blythii* than has been yet reported. The nominate race should be found breeding further southwest into Gujarat, hybridizing with *blythii* in that general region. The white-headed subspecies seem to be only slightly or locally migratory, whereas the nominate subspecies is distinctly migratory.

S.M. MALABARICUS and *S.M. NEMORICOLA*: The third mainland subspecies, *nemoricola*, is found from northern Burma and northwestern Yunnan to southern Annam, Siam and Tenasserim. The breast and abdomen are normally greyish-white, but in this exceedingly variable form some specimens are almost indistinguishable from *malabaricus* in the amount of ferrugineous on the underparts. The alula and primary coverts are frequently white, but this character is not constant; individuals may be found which have some or all of the coverts, and the alula, black. I have examined a specimen of *malabaricus* from Nepal which has the left alula white and the right one black. This is unusual, for that race otherwise has those feathers black.

Two specimens from Pantha, Upper Chindwin, identified as *malabaricus* (Mayr, 1938) are really *nemoricola*. The male is quite erythritic below, but the female is greyish-white, the usual condition in this race. This subspecies also occurs in the Myitkyina District of northern Burma, (Stanford & Ticehurst, 1938).

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[1] We have since seen specimens collected at Ahmedabad in Gujarat, ca. 300 miles north of Bombay city.—EDS.

In the use of the appended key to the subspecies, it must be remembered that because of the variability of this species specimens may be encountered which will not fit the key. Intermediates will also be a source of difficulty. Such cases are best treated by assigning the bird in question to the proper race on the basis of range. Here again difficulties will be met with for in winter two forms may occur in the same locality, especially along the Malabar Coast in southern India and the Arakan Coast of Burma.

Useful accounts of the intraspecific variation that is known to exist in *S. malabaricus* are to be found in papers by Deignan (1945) and Stanford & Ticehurst (1938).

KEY TO THE SPECIES AND SUBSPECIES OF THE *Sturnus malabaricus* GROUP (adults only)

1.	Secondaries, tertials, and central tail feathers black, glossed with green; never grey	(species *erythropygia*)	2
	Secondaries, tertials, and central tail feathers grey	(species *malabaricus*)	4
2.	Rump and upper-tail coverts pearly grey or roseate, never deeply ferrugineous ...		3
	Rump and upper-tail coverts chestnut (Car Nicobar only) ...	*erythropygia*	
3.	Under-tail coverts pinkish buff or white (Andaman Islands only) ...	*andamanensis*	
	Under-tail coverts rufous (Katchal Island only)[1] ...	*katchalensis*	
4.	Crown and nape white or pale grey, never conspicuously streaked; breast always white; rump grey (southwest India) ...	*blythii* (males)	
	Crown and nape grey, sometimes streaked with black and white; if crown white or unstreaked grey, then rump buffy ...		5
5.	Breast sullied white or grey, sometimes tinged with rufous; rufous usually restricted to lower flanks and abdomen ...		6
	Breast and abdomen rufous ...		7
6.	Rump grey, sometimes tinged with ochraceous (southwest India) ...	*blythii* (females)	
	Rump distinctly buffy (Burma, Siam, Yunnan, Annam) ...	*nemoricola* (part)	
7.	Rump distinctly buffy, head sometimes almost white (Burma, Siam, Yunnan, Annam) ...	*nemoricola* (part)	

[1] Specimens not seen ; adapted from Stuart Baker (1926).

Rump grey, sometimes faintly tinged with rufous (Himalayan foothills from Dehra Dun to Nepal, Assam and Bengal; in winter to South India and Arakan Coast of Burma) ... *malabaricus*

STURNUS MALABARICUS BLYTHII (Jerdon)

(Including intermediates)

SOUTHERN BOMBAY PROVINCE: Londa, Jan. 16, 1938, 1 ad. ♂, Jan. 19, 1 ad. ♂, Jan. 26–29, 3 ad. ♂, Feb. 6, 1 ad. ♂, Feb. 12, 1 ad. ♂.

(The following birds are all intermediate between this race and nominate *malabaricus*): Londa, Jan. 30, 1938, 1 ad. ♀, Jagalbed, Feb. 19, 1 ad. ♂, March 10, 1 ad. ♂.

In the Indian starlings as a group, except for small size differences, there is almost no sexual dimorphism. It is therefore curious that in *S. malabaricus* there should be a distinct trend toward such differentiation. In both this and the nominate race the females differ from the males in having the rufous underparts very much paler. The females of both of these races are rather similar, but in *blythii* the male only has evolved a white, unstreaked crown. The sexes of *nemoricola* are only distinguishable by average size differences. The mainland races of this species thus show an increasing differentiation of the sexes from the easternmost to the westernmost subspecies.

MEASUREMENTS: (Adult males only) wing: 96, 99, 102·5, 104, 104·5, 105, 107; Tail: 62, 63, 65, 65, 66, 67, 67·5; Bill: 14·5, 14·5, 14·5, 15, 15, 15, 16.

STURNUS MALABARICUS MALABARICUS (Gmelin)

SOUTHERN BOMBAY PROVINCE: Londa, January 16, 1938, 1 ad. ♂, Jan. 27 1 ad. ♀, March 12, 1 ad. ♀; Jagalbad, March 3, 1 ad. ♂.

KATHIAWAR: Junagadh, Sasan, Feb. 1, 1949, 1 ad. ♂.

NEPAL: Simra, March 5, 1947, 2 ad. ♂; Amlekhganj, March 6–7, 1 ad. ♂, 1 ad. ♀; Thankot, April 12, 1 ad. ♀; Hitaura, May 16-June 16, 7 ad. ♂, 3 ad. ♀, 1 imm. ♂.

UTTAR PRADESH (United Provinces): Kumaon, Kathgodam, April 6, 1948, 1 ad. ♂, Aug. 18, 1 ad. ♀; Bageswar, April 22, 1 ad. ♀; Gorakhpur, Jan. 26–27, 1947, 1 ad. ♂, 2 ad. ♀.

MADHYA PRADESH (Central Provinces): Bichhia, July 9–22, 1946, 1 ad. ♂, 2 ad. ♀, 1 unsexed ad., 1 imm. ♂; Belwani-Kisli, July 30, 1 imm. ♂, 1 imm. ♀; Mandla, Oct. 14, 1 ad. ♀. Amraoti, Bastar, March 27, 1949, 2 ad. ♂.

ASSAM: Khasia Hills, Umran, April 9–12, 1949, 1 ad. ♂, 3 ad. ♀; Nongpoh, April 20–25, 1 ad. ♂, 2 ad. ♀.

The post-nuptial molt begins very early in July; I have found no molting birds after September, but the material examined was scanty. It seems probable that individuals molt rapidly.

MEASUREMENTS: Wing: 9♂♂, 98–106 (102·3); 6♀♀, 96–102 (98·3). Tail: 6♂♂, 59–65 (62·8), 8♀♀, 60–63·5 (61·6). Bill: 18♂♂, 11·5–15 (13·0), 19♀♀, 12–14 (13·3).

Sturnus pagodarum

Most authors have been agreed that there are no subspecies of the Brahminy Myna and that the species is uniform across its entire range in India from Assam to Afghanistan and south to Ceylon. It seems to have been overlooked that the resident birds of the plains of south

India exhibit a constant color difference when compared with other Indian birds. They are distinctly browner-backed whereas the northern and southern hill populations are gray-backed. They are also very slightly smaller, but not sufficiently so as to be separable on the basis of that character alone. It is probable that a large enough series would demonstrate the existence of a regular clinal increase of size from south to north ; this is suggested by the material at hand but the trend is not clear.

Koelz (1939) noted that his specimens from northern India and Afghanistan were grayer than his specimens from Madras, but thought that in addition the Afghanistan birds could be separated from those of Bombay, Lucknow and Nepal ; for the latter he suggested the name *sylvestris* of Hodgson (1836). Accordingly, he named the former *afghanorum*, at the same time indicating that he considered it probable that Punjab and Rajputana birds would also belong to that race.

I have examined the type series from which *afghanorum* was described and although they are on the whole slightly paler than Indian specimens they are decidely more worn than the latter. Since there are indications that birds in fresh plumage are darker, it is not possible to be certain that the differences seen are not caused by wear. I believe that at the present time it is best not to recognize a distinct Afghanistan race, although one could, with some justification, expect that the population of the dry northwest will prove separable when more specimens are forthcoming.

Adults have been found molting as early as August 28 and as late as December 26. Two birds were found molting exceptionally late : a male taken January 3 at Mandasa, Madras Province, molt almost completed, and a female collected on February 6 at Sasan, Junagadh, just beginning to molt. There are two to three broods per year in this species and late-molting birds might conceivably be ones which have attempted to raise the maximum number of young. There is no substantial evidence for a pre-nuptial molt.

STURNUS PAGODARUM PAGODARUM (Gmelin)

Madras Province : Saba, Jan. 27, 1937, 1 ad. ♂ ; Mandasa, Jan. 30, 1 ad ♂ ; Nilambur, March 3–5, 1 ad. ♂, 1 ad. ♀; Salem, March 11–12, 1948, 1 ad. ♂, 1 ad. ♀; Cudapah, March 19, 1937, 1 ad. ♀; Sidhout, March 21–22, 3 ad. ♂, 4 ad. ♀ ; Hospet, March 25, 1 ad. ♂.

The type locality of *Turdus pagodarum* Gmelin is Malabar and Cormandel (Gmelin, 1789) and therefore this name must be restricted to the population of the plains of southern India. *Sturnus subroseus* of Shaw and Nodder (1808) is based on a description by Levaillant (1799) of 'le Martin Brâme'. Levaillant's description : 'Le manteau, les scapulaires, les recouvrements du dessus de l'aîle, les moyennes pennes de l'aîle, le dos, les couvertures du dessus de la queue et les deux plumes du milieu de la queue, sont d'un gris roussâtre,' and the illustration (plate 95) indicate that a brown-backed bird is the form described. Clearly then, *Sturnus subroseus* Shaw and Nodder is a synonym of *pagodarum*, and to underscore this I restrict the type locality of *S. subroseus* to Malabar District, Madras Province.

Measurements : Wing : ♂♂, 103, 104, 105, 107, 108, 110, 110, 110; ♀♀, 99, 99, 99, 100, 100, 101, 101. Tail: ♂♂, 64, 64, 66, 66·5, 67, 67, 67·5, 71·5 ; ♀♀, 60, 60·5, 61.5, 64, 64; 64. Bill : ♂♂, 10, 12, 12, 12·5, 13·5, 14, 14, 14; ♀♀, 11, 11·5, 12, 12, 12, 12, 13.

STURNUS PAGODARUM AFGHANORUM (Koelz)

AFGHANISTAN : Marmakhel, May 20–24, 1937, 3 ad. ♂, 1 ad. ♀; Chandau, June 7, 2 ad. ♂, 1 ad. ♀; Tagau, June 8, 1 ad. ♂ (type).

INDIA : PUNJAB : Kulu Valley, Kulu, June 3–4, 1933, 1 ad. ♂, 1 ad. ♀; Dartse Valley, Lahul, Oct. 10, 1936, 1 imm. ♂, 1 imm. ♀.

SOUTHERN BOMBAY PROVINCE : Londa, Jan. 12—March 12, 1938, 4 ad. ♂, 3 ad. ♀; Jagalbed, June 9, 1 ad. ♀.

KATHIAWAR : Sihor, Jan. 26–28, 1949, 2 ad. ♂; Junagadh, Sasan, Feb. 6, 2 ad. ♀.

RAJPUTANA : Mewar, Udaipur, April 22, 1937, 2 ad. ♂; Sirohi, Anadra, Dec. 29, 1948, 1 ad. ♂.

MADHYA PRADESH (Central Provinces): Bheraghat, March 3—April 12, 1946, 6 ad. ♂, 1 ad. ♀, Nov. 13, 1 ad. ♂, Dec. 12–24, 2 ad. ♀, 1 imm. ♀; Bichhia, July 22, 2 imm. ♂. Ramanujgang, Surguja : Oct. 6–9, 1947, 1 ad. ♂, 1 ad. ♀.

BIHAR : Mohammadganj, Aug. 23–30, 1947, 2 ad. ♂, 1 imm. ♂, 2 imm. ♀; Garhwa Road, Sept. 12, 1 ad. ♂; Nawadah, Nov. 12, 1 imm. ♀.

UTTAR PRADESH (United Provinces) : Benares, Jan. 22, 1947, 1 ad. ♂; Lucknow, Dec. 10–11, 1936, 3 ad. ♂, 1 ad. ♀.

When Koelz (1939) gave a diagnosis of this race and applied Hodgson's (1836, p. 771) name *sylvestris* (*nomen nudum*) he therefore became the author of *sylvestris*. However, *sylvestris* is best considered a synonym of *afghanorum* and will be available if Afghanistan and Indian birds should prove distinct.

MEASUREMENTS : Wing : 26 ♂♂, 104–115 (109·2); 9 ♀♀, 97, 103·5 (101·2). Tail : 18 ♂♂, 66–73 (69·5); 9 ♀♀, 56–68·5 (64·1). Bill : 30 ♂♂, 11·5–15 (13·0); 10 ♀♀, 11–14 (12·6).

Sturnus roseus (Linnaeus)

IRAN : Luristan, Durud, April 21–22, 1941, 2 ad. ♂; Khorasan, Bujnurd, Aug. 2, 1940, 1 imm. ♂; Robat i Khan, Sept. 2–3, 1 imm. ♂, 1 imm. ♀.

AFGHANISTAN : Khaksan, July 9, 1937, 2 ad. ♀; Faizabad, July 10–12, 2 ad. ♂, 1 ad. ♀; Khaisabad, July 15, 1 ad. ♂, 2 ad. ♀, 1 sub-ad. ♀, 2 fledgling ♀; Zebak, July 21, 1 imm. ♀; Iskarzir, July 30, 1 ad. ♀; Jurm, Aug. 8, 1 imm. ♀; Tuti, Aug. 15, 1 imm. ♂; Sabz Pass, Aug. 29, 1939, 2 imm. ♂; Balkh, Sept. 20, 1937, 1 imm. ♂; Zehnadir, Sept. 26, 1939, 1 ad. ♂.

INDIA : SOUTHERN BOMBAY PROVINCE : Londa, Jan. 15–28, 1938, 3 ad. ♂, 1 ad. ♀, 1 unsexed ad.

KATHIAWAR : Junagadh, Jamwala, Feb. 10, 1949, 1 ad. ♂.

MADHYA PRADESH (Central Provinces) : Mandla, Oct. 14, 1946, 1 imm. ♀; Bheraghat, Dec. 26, 1 ad. ♂, March 13–22, 1 ad. ♂, 2 ad. ♀, 1 subad. ♀.

The Rosy Pastor is a breeding bird of the Palaearctic and a migrant and winter visitor to India. The movements and status of this species have been summarized, for the Indian area, in a recent paper by Abdulali (1947). From the breeding grounds in southeastern Europe and Russian Turkestan flocks appear as early as July and enter India from the northwest between Baluchistan and the foot of the Himalayas. This starling may be found throughout the winter in peninsular India and Ceylon ; the return flight begins in March and is generally over in April.

In Afghanistan, it is considered a passage migrant on the route to and from India. Whistler (1945, pp. 112–114) has very little information about its movements in autumn,[1] recording only one bird taken

[1] Spring passage through Northern Afghanistan has been described by Meinertzhagen (*Ibis*, 1938 : 499–500)—EDS.

July 6 at Tala. The Koelz specimens indicate that this migration starts early in July and maintains at least as late as September 26.

Although it had been suggested at one time or another that the Pastor might be found breeding in Afghanistan, Whistler (*loc. cit.*) concluded that there was no evidence for it. This bird must now be considered as having bred at least once in Afghanistan, for Koelz collected two fledgling females on July 15, 1937, at Khaisabad, with the nestling down still clinging to the tips of the juvenal feathers and the new rectrices and remiges still in their sheaths. These are unquestionably the young of birds that had nested locally.

There is a single, post-nuptial molt. Two years seem to be required to attain the fully adult plumage. The immature molts from a light brown, streaked plumage into a plumage similar to the pattern of the adult female, but duller and browner. Individuals in this first winter plumage I have referred to as 'sub-adult' but do not imply that such birds do not breed until gaining the nuptial feathering. Whether such sub-adults breed is not stated in the literature.

Sturnus contra contra (Linnaeus)

Synonym: *Sturnus contra dehrae* (Baker).

UTTAR PRADESH (United Provinces): Benares, Jan. 23, 1947, 1 ad. ♂, 1 ad. ♀; Gorakhpur, Jan. 28, 1 ad. ♂; Nichlaul, Feb. 5, 1 ad. ♀; Lechiwala, Sept. 9, 1948, 1 ad. ♂, 1 ad. ♀; Lucknow, Dec. 10–12, 1936, 1 ad. ♂, 1 ad. ♀.

MADHYA PRADESH (Central Provinces): 7 miles north of Jubbulpore, Feb. 24, 1946, 1 ad. ♀; Raipur, March 31–April 1, 1949, 2 ad. ♂, 2 ad. ♀; Mandla, June 21, 1946, 1 ad. ♂, Oct. 17, 1 ad. ♀, 1 imm. ♂; Bichhia, Oct. 7, 1 imm. ♂, 1 imm. ♀; Bheraghat, Dec. 6–29, 5 ad. ♂, 1 unsexed ad, Jan. 17, 1947, 1 ad. ♀. Surguja: Ramanujganj, Sept. 6–8, 1947, 2 ad. ♀, 1 imm. ♂, 1 imm. ♀.

BIHAR: Mohammadganj, Aug. 25, 1947, 1 ad. ♂.

BENGAL: Dacca, Jan. 14–17, 1937, 1 ad. ♂, 1 ad. ♀; Sukna, Dec. 27, 1936, 2 ad. ♂; Siliguri, Dec. 30, 1 ad. ♂, 1 ad. ♀.

ASSAM: Khasia Hills, Barni Hat, May 15, 1949, 1 ad. ♂.

The type of *dehrae* (Baker, 1925, p. 103), taken in 1870, is from the Hume Collection, and one cannot but suspect that this specimen, and perhaps also the remainder of the type series, had faded over the years. It is known that the Hume Collection remained in India many years before being finally brought to the British Museum, and modern facilities for properly caring for a collection were not available to Hume. It is therefore not surprising that more recent specimens, when compared with this material, should appear to be different.

I have examined a series from near the type locality of *dehrae* and do not find them to be paler than birds from Bengal and Northern Cachar. Accordingly, I do not consider *dehrae* worthy of subspecific recognition.

The type locality of *contra* was restricted to Calcutta by Baker (1927, p. 62). This would seem an unfortunate choice if *dehrae* were really valid, for Baker's own description of the ranges of the two races would place the type locality almost in the zone where the two forms would meet.

Range: Plains of northern India from the United Provinces and Central Provinces eastward to Assam. It is replaced in northern Burma by *S. c. superciliaris.*

Molting individuals are to be found from Aug. 25 to the end of December. The bill of young birds is horn color and the legs darker

than those of the adult. The bright yellow bill, so characteristic of the adult, is probably acquired in January or February.

MEASUREMENTS: Wing: ♂♂, 120, 120.5, 121, 122, 122, 122, 123, 125, 125, 126, 126; ♀♀, 114, 117, 118, 118, 120, 120, 120, 120, 120, 120. Tail: ♂♂, 68, 69, 69, 69, 70, 70, 70, 71, 72, 74, 74, 74, 75; ♀♀, 64, 64, 65·5, 65·5, 67, 67·5, 68, 68, 68·5, 70, 72. Bill: 17 ♂♂, 19–21 (20·0), 12 ♀♀, 18–21·5 (19·4).

A new subspecies, *sordidus*, (type locality: Sadiya, north-eastern Assam), has recently been described by Ripley (1950). It is separated from the nominate race as "having the streaklets on the shoulders much reduced, and ... lacking on the nape." The streaklets are "sepia rather than vinaceous or drab." In addition, the new race is said to be darker on the underparts than *contra*. The range is given as "Northern Assam from Dibrugarh and Margherita north to the foothills around the Brahmaputra gorges and east through the Lohit Valley."

In the Rothschild Collection there is only one specimen from the range of this proposed race. It comes from Margherita and does not differ from nominate *contra*; it shows none of the stated characters of *sordidus*.

Sturnus tristis tristis (Linnaeus)

AFGHANISTAN: Marmakhel, May 23, 1937, 1 ad. ♀; Laghman, May 25, 1 fledgling ♀, May 26, 1 ad. ♀; Tashkurgan, Sept. 4, 1 ad. ♀. Akcha, Sept. 8, 1 ad. ♀; Sept. 17, 1 ad. ♂, 1 ad. ♀, 1 imm. ♂; Shirburgan, Sept. 13, 1 ad. ♂; Bai, Sept. 18, 1939, 1 ad. ♂; Kandahar, Oct. 21–24, 1937, 3 ad. ♂, 3 ad. ♀; Andkhui, Nov. 20–24, 1 ad. ♂, 2 ad. ♀; Balkh, Nov. 27, 1 ad. ♀.

KASHMIR: Bandipur, July 30, 1936, 1 imm. ♂, 1 imm. ♀.

PUNJAB: Kulu Valley, Kakinal, June 4, 1936, 1 ad. ♂.

SIND: Khinjar Lake, Feb. 16, 1934, 1 ad. ♂.

KATHIAWAR: Junagadh, Jamwala, Feb. 10, 1949, 1 ad. ♀.

SOUTHERN BOMBAY PROVINCE: Londa, Jan. 15–27, Feb. 6–14, 1938, 3 ad. ♂, 5 ad. ♀; Jagalbed, Feb. 19–27, 2 ad. ♂, 1 ad. ♀; Supa, Feb. 27, 1 ad. ♂.

MADHYA BHARAT (Central Provinces): Saugor, Feb. 21, 1946, 1 ad. ♂; Bheraghat, March 26–27, 2 ad. ♂, Dec. 1, 1 imm. ♂; Bichhia, July 15, 1 imm. ♀; Kanha, Sept. 1, 1 imm. ♀. Surguja: Ramanujganj, Oct. 5, 1947, 1 ad. ♂; Khuri, Oct. 28–29, 6 ad. ♂.

BIHAR: Mohammadganj, Aug. 24, 1947, 1 ad. ♂, Sept. 5, 1 ad. ♀; Garhwa Road, Sept. 21, 1 ad. ♀.

UTTAR PRADESH (United Provinces): Gorakhpur, Jan. 28, 1947, 1 ad. ♀; Nichlaul, Feb. 12, 1 ad. ♂; Kathgodam, Aug. 20, 1948, 1 ad. ♂; Lucknow, Dec. 13, 1936, 1 ad. ♀.

NEPAL: Simra, March 4, 1947, 1 ad. ♂; Amlekhganj, March 10, 1 ad. ♀; Thankot, March 23, 1 ad. ♀; Chitlang, April 16–22, 3 ad. ♂, 1 ad. ♀; Hitaura, May 15, 1 ad. ♀, May 30, 1 ad. ♂, June 16, 1 imm. ♂, 1 imm. ♀, July 14, 1 ad. ♀, July 20, 1 ad. ♀.

BENGAL: Dacca, Jan. 17, 1937, 1 ad. ♂.

Within the past quarter of a century the range of this myna has undergone a vigorous expansion until it has now appeared as far east as Indo-China and as far west as Afghanistan and Turkestan. In addition it has been introduced by man in many areas remote from its original range. Perhaps because of the large population size and ability to colonize across what would prove effective barriers for other species it has not evolved into more than two distinct races.

It has been customary to separate the darker Ceylon bird as the subspecies *melanosternus*. Numerous authors have remarked on the intermediate population resident in Travancore; these birds are lighter than those from Ceylon but darker than northern Indian birds. As yet, no one has attempted to name this population although Baker (1926)

suggested that such a course might be possible. Even though the differences may not be sufficient to express in taxonomic terms it may be desirable to recognize the situation as a clinal increase in depth of color from northern to southern India.

Although the period of molt extends at least from the end of July through November, individual birds appear to molt quite rapidly. In several specimens the entire head, including crown and throat, appears naked, except for the tiny incoming feathers which are all at the same stage of development. The tail molt is also rapid ; after the central pair have been renewed all the others are replaced almost simultaneously.

With wear, the plumage of the back becomes more red-brown.

MEASUREMENTS : Wing : 13♂♂, 146–153 (149·3) ; 16♀♀, 137–147·5 (141·9). Tail : 8♂♂, 88–93·5 (90·9); 11♀♀, 80–89 (85·0). Bill : 32♂♂, 14–18 (16·2); 29♀♀, 14–18 (15·18).

Sturnus ginginianus (Latham)

PUNJAB : Patiala, Gagga, Jan. 22, 1948, 1 ad. ♂.

RAJPUTANA : Sirohi, Sirohi, Dec. 27, 1948, 2 ad. ♂, 1 ad. ♀.

UTTAR PRADESH (United Provinces): Benares, Jan. 23, 1947, 1 ad. ♂. Gorakhpur, Jan. 26–27, 2 ad. ♀, Jan. 29, 1 ad. ♂; Nichlaul, Feb. 6–12, 4 ad. ♂; Kalnahi, Feb. 19, 1 ad. ♂, Feb. 23, 1 ad. ♀; Malasa, April 1–4, 1948, 2 ad. ♂, 1 ad. ♀.

BIHAR : Mohammadganj, Aug. 20, 1947, 1 imm. ♀, Aug. 24, 1 imm. ♂, Sept. 3, 1 ad. ♂ ; Garhwa Road, Sept. 10, 1 ad. ♂, Sept. 12, 1 imm. ♀, Sept. 21, 3 imm. ♂.

The species' range is limited to the plains of northern India between the outer Himalayas in the north and the Vindhya Hills chain in the south and from the Northwest Frontier Province to Bengal. It is extremely partial to well watered terrain and apparently the jungles to the south and east, the arid land to the west and the high mountains to the north have been sufficient barriers preventing its entering other suitable areas, particularly in southern India. Within its rather narrow range there is no evidence of geographic variation.

Specimens from Bihar, September 3, 10, and 12, are molting. The feathers of the lower back and abdomen appear to be the first body feathers renewed; later, the upper back and throat feathers molt, preceding the feathers of the crown and chin, which are the last replaced. The fresh secondaries are narrowly edged with buff, but these lightly colored edges quickly wear.

Birds of the year, upon completing the post-juvenal molt, are indistinguishable from adults.

MEASUREMENTS : Wing: ♂♂, 118 (♀?), 123·5, 124, 125, 125, 126, 127, 127, 127, 128, 128, 129, 129 ; ♀♀, 121, 121, 122, 123, 123. Tail ; ♂♂, 67 (♀ ?), 68, 69, 69, 70, 70, 70, 71, 71, 71, 73·5, 74 ; ♀♀, 64, 67, 68, 68·5, 71. Bill : ♂♂, 14 (♀ ?), 14, 14, 15, 15, 16, 70, 16, 16, 16, 16, 16, 17, 17, 17 ; ♀♀, 14, 14, 15, 15, 16, 16.

Sturnus fuscus (Wagler)

The crested mynas of the *cristatellus-fuscus-grandis* assemblage have been variously treated as including from one to three species. In a recent review of that group, Ticehurst (Stanford and Ticehurst 1937, pp. 555–557) recognized two species: *cristatellus* and *griseus*. Under the former were included the nominate mainland race, the Hainan race, *brevipennis*, and the Formosan subspecies, *formosanus*. With the Javan *griseus* were united *grandis* and *fuscus*.

Ticehurst correctly saw that *fuscus* of India, Arakan, and lower Burma, and *grandis* of Upper Burma and Siam were conspecific. There has been no evidence to show that these two forms are not strictly allopatric, and intermediates are known to occur. Ticehurst himself reports such intermediates from Maymyo, Mandalay District of Central Burma. I have examined a specimen in the Rothschild Collection (male adult, May 2, Kani, Lower Chindwin) which is very similar to *grandis*, but the lower part of the abdomen is a pale buff color, approaching *fuscus* in that respect.

The relationship between *grandis* and *cristatellus* is not as easily established because migratory movements in these two forms have tended to obscure the real limits of their breeding ranges. The evidence presented by Ticehurst does not indicate a necessary overlap of the breeding ranges, nor until now has it ever been shown that these two birds do, in fact, occur together during the breeding season and yet remain reproductively isolated.

In Tonkin and Annam, *gandis* is said to overlap with *brevipennis*, a subspecies of *cristatellus* described originally from Hainan. I have been able to find only two definite records of the two forms breeding together. Mr. Jean Delacour, although he himself was there only in winter, tells me that the two birds are very common and both breed in Annam and Tonkin. He suggests that the scarcity of breeding notes may be due to the fact that the birds are so ubiquitous about the countryside that no one has bothered to publish nidification records. Milon (1942, p. 8) states that both nest about Langson in northeastern Tonkin. S. Eaton (unpublished) collected at Poseh, Kwangsi, China, on May 2, 1945, a female of *cristatellus* ("advanced ovary; brood patch") and a male of *grandis* (" testes enlarged") the following day.

In Yunnan, it is still uncertain that a real overlap of breeding range occurs. Mayr (Stanford and Mayr, 1941, p. 354) pointed out that the material, which according to Ticehurst demonstrated overlapping in northwestern Yunnan, represented collections made at different seasons. However, I have examined a specimen from the Myitkyina District of Northern Burma, which is apparently a hybrid between *grandis* and *cristatellus*. Of two males taken at Namaoyang (500′) April 11, 1939, one is typical *grandis* while the other exhibits characters of both that form and *cristatellus*. The latter specimen has the base of the lower mandible reddish and the undertail coverts black, like *cristatellus*, but the coverts and rectrices are broadly tipped with white, the condition in *grandis*.

Ticehurst's remark (*loc. cit.*) that in "Northern Burma *grandis* sometimes has the undertail coverts partly black but always with broad white tips, and broad white tips to the tail" may be interpreted to indicate a zone of hybridization in that area.

One must regard *cristatellus* as specifically distinct from *fuscus* (including *grandis*) although they are so closely related that their ranges are still largely allopatric and that in at least one area in Northeastern Burma there is not complete reproductive isolation.

Because *Aethiopsar* and *Acridotheres* are congeneric the name *griseus* cannot stand (Stanford and Mayr, 1941) and *fuscus* must replace it. Included as a race of *fuscus* is *grandis*.

In India it is possible to recognize two races of *fuscus*: a gray

backed northern form, nominate *fuscus*, and the browner backed southern and western bird, *mahrattensis*. The material of Koelz shows the two forms to be clearly separable on the character of the color of the back alone, although it is said that the races also differ in the color of the irides[1]. Examples from Bichhia, Mandla District, Central Provinces, were too worn to assign with certainty, but two adults seem closer to *mahrattensis* and they have doubtfully been referred to that race by me.

Sálim Ali and Whistler (1936, p. 501) note that this myna had not been recorded from the Palni Hills,[2] but we now have a specimen from there.

A. f mahrattensis breeds in southern India north, along the west coast, to the latitude of Bombay City. It may prove also to be the breeding form of the northern Central Provinces. The nominate subspecies nests in northern India from Simla to Assam and eastern Bengal south to Pegu. It intergrades with *grandis* in central Burma and with *torquatus* in southern Tenasserim and northern Malaya.

Ripley (1950) has described another race of *fuscus* from Assam. The new subspecies, *fumidus* (type locality: Sadiya, northeastern Assam), is said to differ from the nominate form by being "darker, more sooty on the upperparts particularly on the rump, and darker, more smokey on the abdomen and belly." The range of *fumidus* is given as "Assam in north Cachar and north to Lakhimpur and the Mishmi Hills."

Four worn males from the Khasia Hills, which should belong to this proposed race, were compared with males in similar plumage from Nepal. The latter represent nominate *fuscus* (type locality: eastern Bengal). No constant differences which would separate the Khasia Hills and Nepalese birds were observed. Three specimens (Rothschild Collection) from Assam localities—Patkai Hills, Margherita, and 'northern Assam'—agree with the other Indian material. The distinctness of *fumidus* appears questionable.

STURNUS FUSCUS FUSCUS (Wagler)

PUNJAB: Kulu Valley, Kakinal, June 4, 1936, 1 ad. ♂.

UTTAR PRADESH (United Provinces): Kalnahi, Feb. 20, 1947, 1 ad. ♀; Khada, Feb. 26, 1 ad. ♀.

NEPAL: Simra, March 5, 1947, 1 ad. ♂; Thankot, April 2-12, 2 ad. ♂, 2 ad. ♀; Hitaura, June 16, 1 ad. ♂, July 4-15, 3 imm. ♀.

ASSAM: Khasia Hills, Umran, April 12, 1949, 1 ad. ♂; Nongpoh, April 24 May 13, 2 ad. ♂; Bara Pani, May 23, 1 ad. ♂.

BENGAL: Dacca, Jan. 14, 1937, 1 ad. ♂.

BIHAR: Raxaul, March 1, 1947, 1 ad. ♀.

MEASUREMENTS: Wing: ♂♂, 122, 122, 125, 127, 127, 127, 128, 129; ♀♀, 120, 121, 121, 124, 125. Tail: ♂♂, 72, 72, 74, 74, 74, 75.5, 76; ♀♀, 67, 71.5, 72, 74.5, 75. Bill: ♂♂, 15, 15, 15, 15, 16, 17, 17, 17.5; ♀♀, 14, 15, 15, 15, 16.

STURNUS FUSCUS MAHRATTENSIS (Sykes)

SOUTHERN BOMBAY PROVINCE: Londa, Jan. 7-25, 1938, 2 ad. ♂, 3 ad. ♀, March, 12, 1 ad. ♂; Jagalbed, March 1-4, 1 ad. ♂, 1 ad. ♀; Castle Rock, March 8, 2 ad. ♂, 1 ad. ♀.

MADRAS PROVINCE: Palni Hills, Kodaikanal, March 10, 1937, 1 ad. ♀; Nilghiri Hills, Ootacamund, Feb. 16, 1 ad. ♂.

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[1] Yellow in northern birds, grey in southern—Eds.

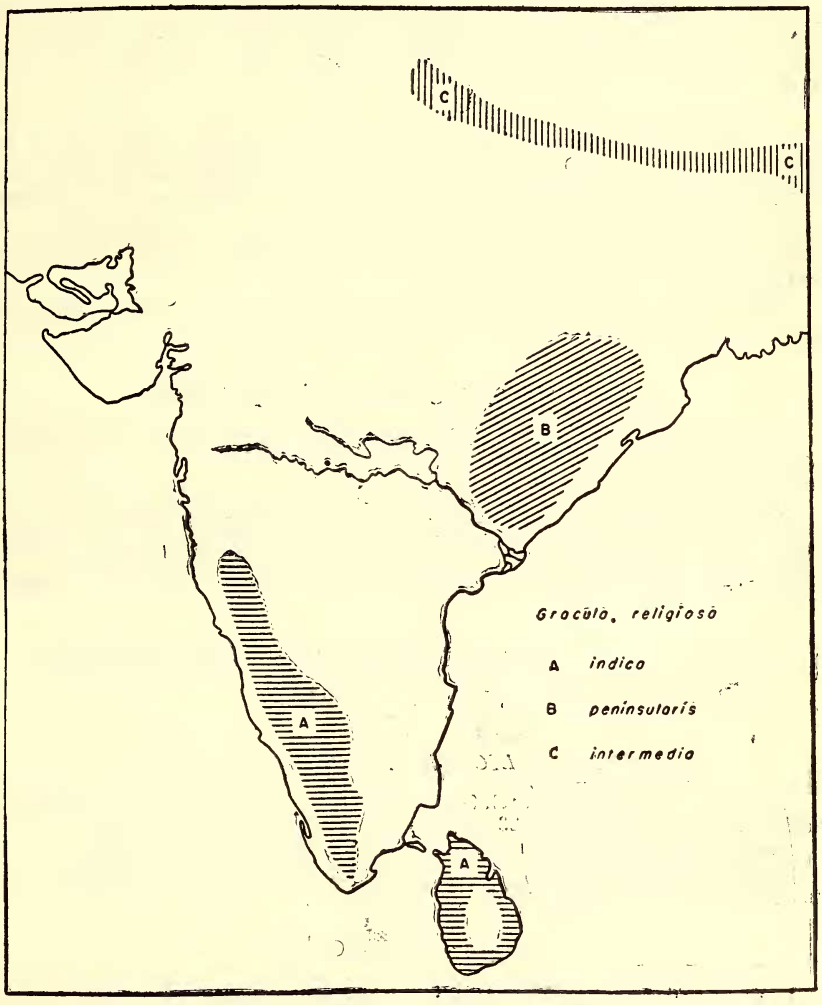
[2] Sálim Ali has since found it common at Kodaikanal (ca. 7,000 ft.) in the Palnis.—EDS.

MADHYA PRADESH (Central Provinces): Bichhia, July 4–17, 1946, 1 ad. ♂, 1 ad. ♀, 3 imm. ♀.

MEASUREMENTS: Wing: ♂♂, 127, 127, 128, 128, 128, 130, 130, 131; ♀♀, 123, 123, 124, 125, 126. Tail: ♂♂, 73, 74, 75, 76, 76.5, 76.5, 76.5, 77; ♀♀, 70, 71, 72.5, 73.5, 75. Bill: ♂♂, 15, 15, 15, 16, 16, 16, 16, 17; ♀♀, 15, 15, 15, 16, 16, 16.

Gracula religiosa Linn.

This specialized starling is widespread in the Oriental region. Representative forms are to be found in Ceylon (*G. ptilogenys*), India Malaysia, and the Greater Sunda Islands. The differences among the



Distribution of *Gracula religiosa* in India.
Horizontal shading: *G. r. indica*; diagonal shading: *G. r. peninsularis*; vertical shading: *G. r. intermedia*.

various subspecies, of which fourteen are recognized, are slight but constant. Variation chiefly expresses itself in general body size, bill

length and depth, and the character of the bare skin about the head. All of the populations are isolated from each other to a greater or lesser degree; the extent of geographic isolation is perhaps nowhere more striking than on a continental land mass such as the Indian peninsula. The enormous discontinuity in range is scarcely appreciated unless one examines a map (text-fig. 1); each major region is occupied by a discrete and fairly homogeneous subspecies. Suitable areas in central India where this myna might be expected are plentiful but nevertheless it appears to be absent. No *a priori* reasons for its absence are known and field studies would seem to be indicated.

The systematics of the Indian races, of which there are three, have been adequately treated by Whistler and Kinnear (1933, pp. 585–590); the puzzling problem of *G. ptilogenys* has been analyzed by Ripley (1946, p. 237).

Baker (1926, p. 20) states that examples of this species from the South Andamans appears to belong to the nominate race, but I find that specimens in the American Museum collection from that island are not distinguishable from the north Indian race *intermedia*. The eye and cheek patches are joined in these birds and the measurements are those of the smaller race. A specimen from Great Nicobar seems not to differ from nominate *religiosa*.

There is no evidence of a regular period of molt and birds in all stages of molt may be found throughout the year.

GRACULA RELIGIOSA INDICA (Cuvier)

SOUTHERN BOMBAY PROVINCE: Londa, Feb. 3, 1938, 1 ad. ♂, Feb. 8, 2 ad. ♂, 1 ad. ♀, Feb. 9, 1 ad. ♂, Feb. 16, 1 ad. ♂, March 11–12, 2 ad. ♂; Jagalbed, Feb. 18–26, 3 ad. ♂, 2 ad. ♀; Supa, Feb. 27, 1 ad. ♂.

MEASUREMENTS: Wing: ♂♂, 139, 139, 140, 141, 142, 143.5, 144, 144, 145, 145, 145; ♀, 141. Tail: ♂♂, 62, 62.5, 65, 65, 66.5, 67, 67, 67, 68, 68, 69.5, 70; ♀, 64.5. Bill: ♂♂, 17, 18, 18, 18.5, 19, 19, 19, 19, 19, 19, 19, 20; ♀♀, 18, 19. Freshly molted specimens in the A.M.N.H. collection are 8–13 mm. longer in the wing and 1–3 mm. longer in the tail.

GRACULA RELIGIOSA PENINSULARIS Whistler & Kinnear

BASTAR: Taroki, March 20, 1949, 1 ad. ♂, 1 ad. ♀.

GRACULA RELIGIOSA INTERMEDIA A. Hay

NEPAL: Amlekhganj, March 9–10, 1947, 2 ad. ♂, 1 ad. ♀; Hitaura, May 20–25, ad. ♀, June 13, 1 ad. ♂, June 23, 1 imm. ♂.

ASSAM: Khasia Hills, Nongpoh, April 24–28, 1949, 3 ad. ♂, 2 ad. ♀.

MEASUREMENTS: Wing: ♂♂, 166, 167, 176; ♀, 163. Tail: ♂♂, 75, 78, 85; ♀ 80. Bill: ♂♂, 18, 19, 19, 19·5; ♀♀, 19, 20, 20·5.

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